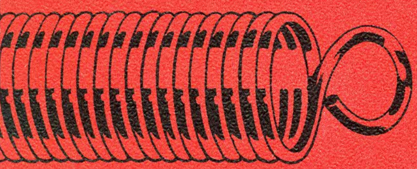
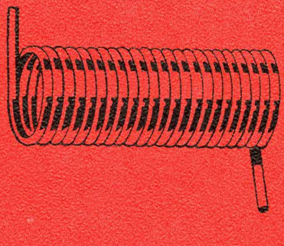


COMPLETE SELF CONTAINED UNIT

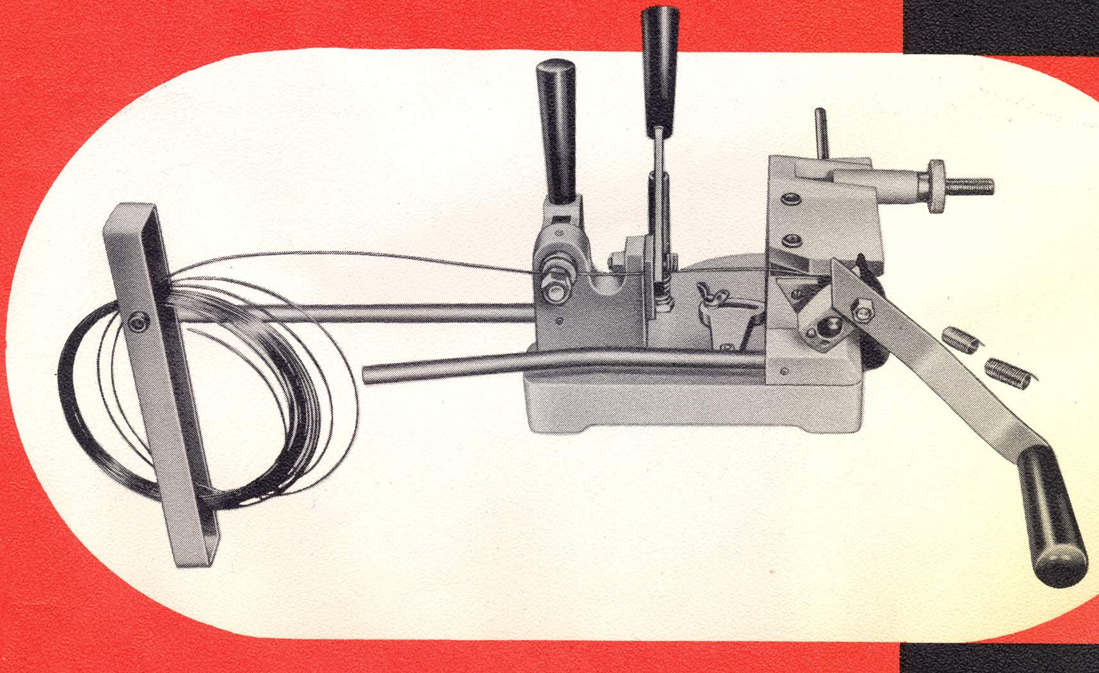
EASY TO OPERATE



ELIMINATES SPECIAL ORDERS

STOPS COSTLY DELAYS

read
how the
DI-ACRO
SPRING WINDER
can save
you money,
time . . . and
soon pay
for itself . . .



the Di-Acro Spring Winder...

Eliminate special orders and costly delays when individual springs are needed for replacements, prototypes or experimental work. Do away with expensive short run production on automatic machines when a small number of springs are required.

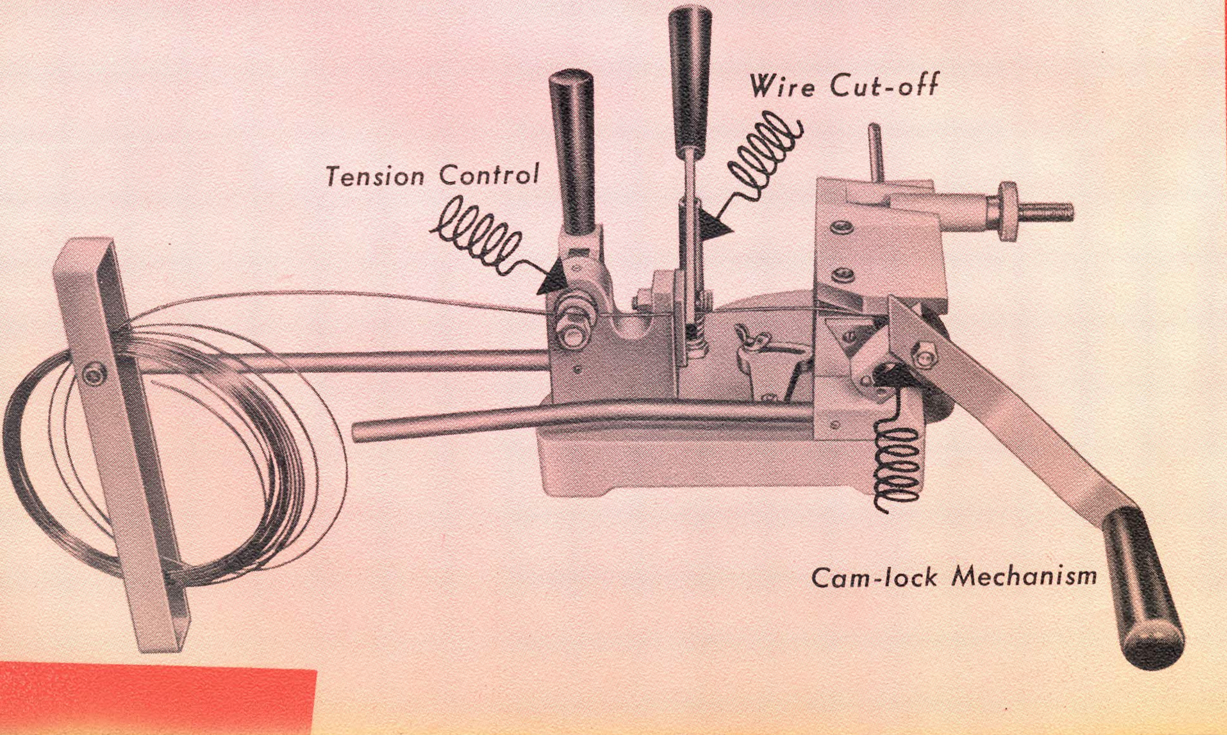
The Di-Acro Spring Winder is a complete self-contained unit. A cut-off device is incorporated right into the machine . . . no special fixtures required . . . no motor necessary. It's ready for operation as soon as it is mounted on a bench or stand. You can make the springs you need in minutes right in your own shop.

Also, the Di-Acro Spring Winder will prove indispensable where a quantity of springs are desired but where delivery cannot be made in time to avoid a costly delay.

If you are using springs as a component part of a product or if you have occasional need for them in your repair or maintenance department, your purchase of a Di-Acro Spring Winder will eliminate broken promises on delivery.

No wasted time—no hunting through a pile to find a spring "that'll do." No more spending three to four dollars to find a ten cent spring. Get the springs you need when you want them . . . in time to do you the most good.

The Di-Acro Spring Winder is simple and easy to operate. No experience or skill is required. The wire is held securely during the winding operation without kinking. There is no aggravating fuss, or wasted time trying to thread wire into a difficult holding or locking mechanism. No bother and inaccuracy trying to adjust the tension control each time a spring is wound.



DI-ACRO SPRING WINDER

$110.00 net f.o.b. Lake City, Minn., U.S.A.

COMPLETE WITH ARBORS AND WIRE AS SPECIFIED BELOW

Net weight: 30 pounds
Shipping weight: 33 pounds
Export weight: 37 pounds

with the DI-ACRO spring winder you can

$129.50

1 Wind one or hundreds of springs.

2 Duplicate springs so that they test with the same load capacity.

3 Make springs to any length.

4 Wind round, flat, square and rectangular wire.

5 Set up for operation in a jiffy. Turn out springs many times faster than you could with a lathe or some other method.

6 Form any gauge wire to .100″ diameter. The cut-off incorporated into this machine will handle up to .085″ wire. Beyond that capacity it is necessary to use a hand cutter.

7 Move the Di-Acro Spring Winder to any location in the shop you wish. It weighs but 30 pounds. Takes up only 23½″ x 8½″ working area, and can be either bench or vise mounted.

THE DI-ACRO SPRING WINDER is shipped to you complete with:

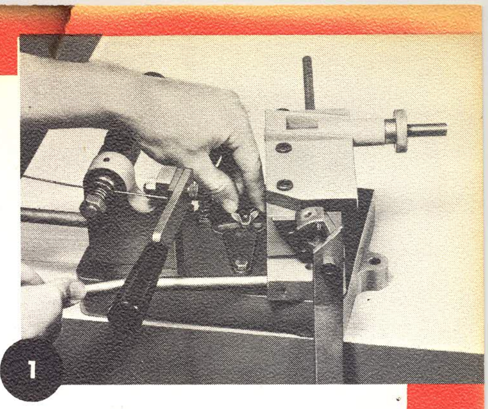
1 Six arbors in the following sizes—⅛, ¼, ⅜, ½, ⅝ and ¾ inches. Arbors are available in the following sizes—⅛ through 1½ inch in steps of 1/16 inch. Arbors ⅝ inch or less in diameter cost $1.50 each. Arbors ⅝ inch to 1½ inch diameter cost $3.25 each. All arbors are 12 inches in length. Longer arbors can be furnished on special request or they can be made in your own plant.

2 Four ¼ pound coils of music wire in the following sizes: .028″, .048″, .067″, and .086″.

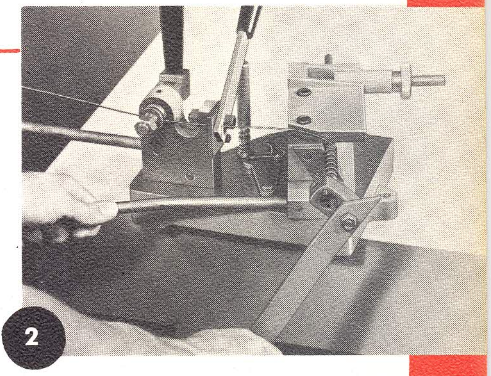
WINDING COMPRESSION SPRINGS

Compression springs require that a lead or pitch be given the wire. Pitch—the space from center wire to center wire—can be varied by a single adjustment of the Di-Acro Spring Winder. Pitch—as a matter of shop practice—should be 3½ to 5 times the diameter of the wire. Other than the pitch which is given the wire, the general operating procedure for winding compression springs is the same as that for winding extension springs.

(See photos 1 and 2)



1



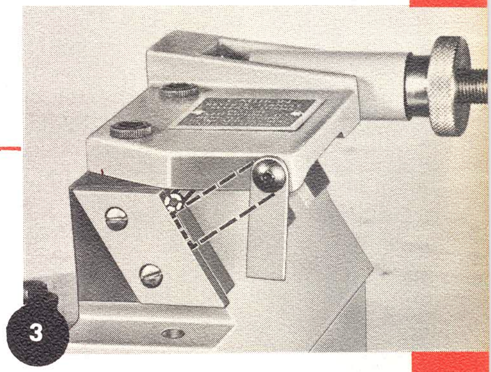
2

WINDING SMALL DIAMETER SPRINGS

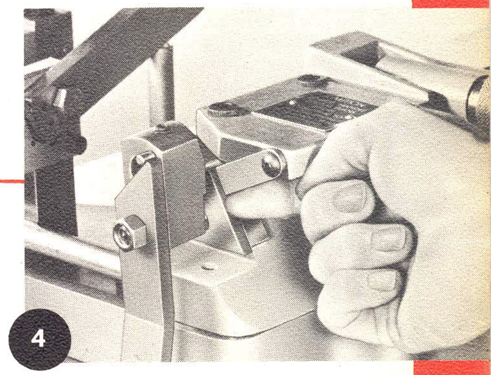
When winding springs that require a small diameter arbor (springs with an O.D. up to 3/8″), best results will be obtained by using the Arbor Support Guide mounted on the right side of the top casting (see photograph).

This guide is designed so that it can be swung underneath the arbor (see photograph) to firmly support it during the winding operation. The use of the Arbor Support Guide with small diameter Arbors is recommended because it eliminates any up and down movement which might result when the operator turns handle. Consequently, uniform springs can be wound and duplicated with a high degree of accuracy.

(See photos 3 and 4)



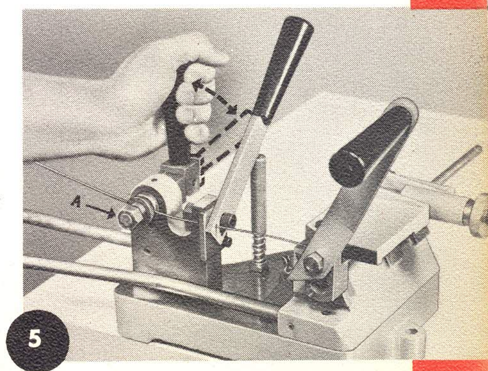
3



4

SPRINGS CAN BE DUPLICATED WITH THE SAME DEGREE OF ACCURACY because of the unique Tension Clamp on the Di-Acro Spring Winder which does away with wrench setting of the tension discs each time a spring is wound. Just adjust Nut A on the tension discs and pull the handle up (vertical position) to apply tension. Set and release tension by a flick of the clamp handle. It's fast, easy . . . and guesswork is eliminated. Tension on the wire is **always the same**—an important factor when you want springs duplicated with the same degree of accuracy, the same load capacity.

(See photo 5)



5

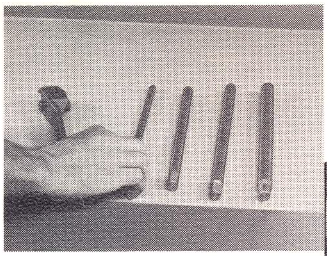
TIPS FOR BETTER SPRING WINDING

1 Turn handle during winding operation with an even, gentle motion. Cranking the machine with a jerky up and down motion introduces a "wobble" producing irregular shaped springs.

2 Make certain that you neither push nor pull on the handle as you turn. Keeping a firm hold on the handle and letting the wire retract the arbor uniformly during winding eliminates distortion.

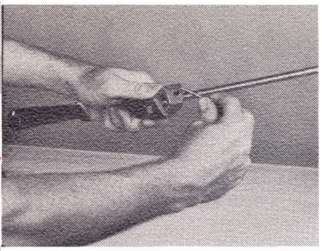
3 Because wire of supposedly identical properties vary, there are no tables available giving a sure fire method of selecting the proper size arbor required to wind a spring of a given inside or outside diameter. As a rough rule of thumb, arbor diameter should usually be about ⅞ of the required inside diameter of the spring. Helpful tables on this subject are shown in some of the engineering handbooks and encyclopedias e.g.—pages 500-502 in the MACHINERY HANDBOOK published by The Industrial Press.

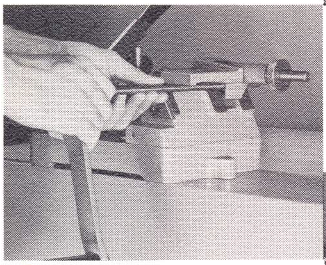
HOW TO WIND AN EXTENSION SPRING



SIMPLY select an arbor of the desired size,

lock the operating handle to it,

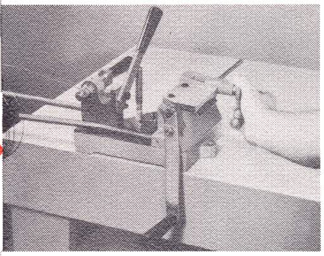


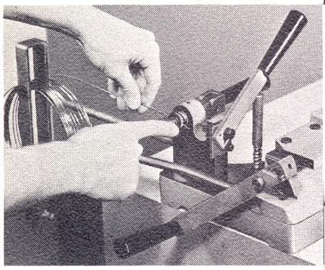


insert the arbor into the V-groove,

and tighten clamp screw so that it holds the arbor snugly. *

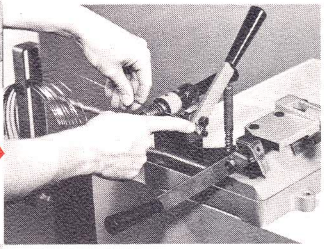
See section on WINDING SMALL DIAMETER SPRINGS.

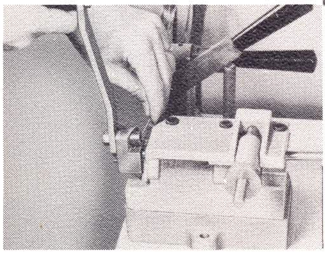




Thread the wire through the hole in the tension disc shaft

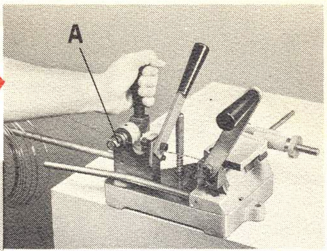
. . . and the wire cut-off

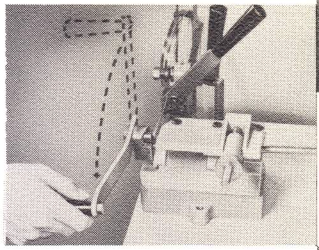




. . . and position the wire under the cam locking mechanism.

Put tension on the wire (pull lever up and tighten nut A).

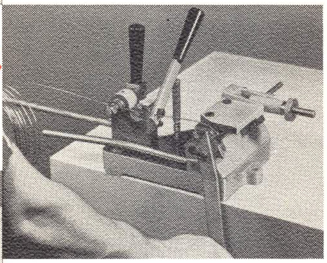


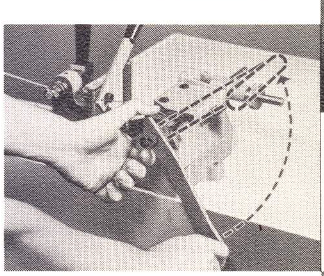


Then, turn the handle (clockwise) and you automatically lock the wire on the arbor.

wind the spring to the desired length **

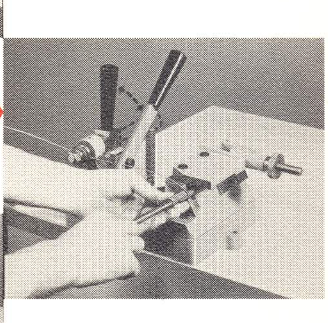
(one turn of the handle makes one coil) . . . release the handle or "back it off" one or two turns to relieve some of the tension

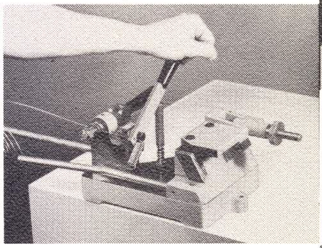




. . . unlock the material . . .

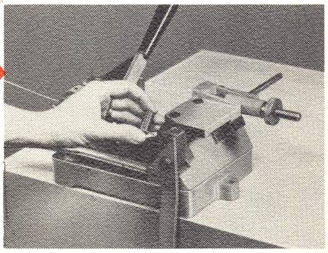
remove the arbor and release the tension.



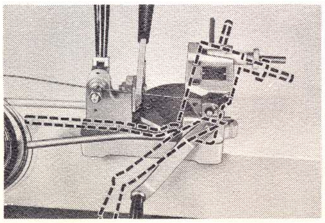


Cut off the spring.

And there you have it . . . a perfectly formed spring in seconds.

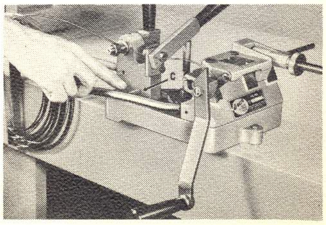


* After clamp screw is set, arbor should slide in V-groove without binding, otherwise irregular shaped springs will be wound.



WINDING WITH INITIAL TENSION

** When it is desirable to wind an extremely tight extension spring or one with "initial tension" (see photo at left), pivot the Mandrel Support Assembly at an angle greater than 90°. Angle can be controlled by adjusting Bolt C (see photo at right).



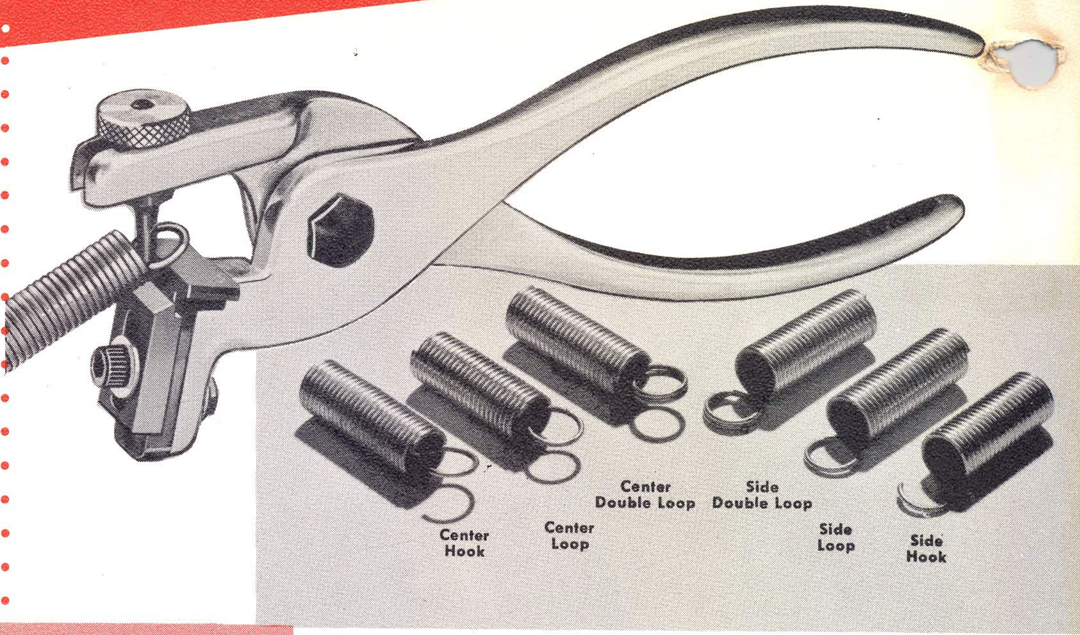
HOOK-KON SPRING LOOPING TOOL

A VALUABLE ACCESSORY . . .
loops springs from ⅛″ to ½″ O. D.

Convenient, easy-to-operate hand tool forms perfect loops on the ends of coiled wire springs. Springs from ⅛″ to ½″ O.D. can be looped from wire up to .062″ diameter.

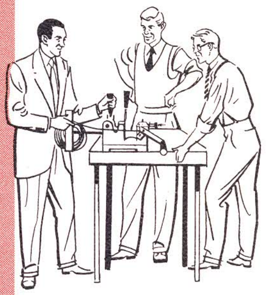
Hook-Kon Spring Looping Tool is delivered complete with two interchangeable forming punches. The small punch is for looping wire up to .025″ diameter; the large one for wire ranging from .025″ to .062″ diameter. Allen wrench and illustrated instructions included with each looping tool.

Hook-Kon Spring Looping Tool ~~$22.50~~ each.
$28.00



WARRANTY

The Di-Acro Spring Winder carries a full one year warranty as do all other Di-Acro Precision Metalworking Machines. All parts are manufactured from the best of materials to the highest standards of craftsmanship. Any part(s) found defective during the warranty period will be replaced free of charge.



MAY WE ARRANGE A DEMONSTRATION OF THE DI-ACRO SPRING WINDER FOR YOU?

The success of Di-Acro Precision Metalworking Machines in thousands of plants has been based upon happy and satisfied customers. We would like an opportunity to show you what this machine will do for you along these lines. Write today or telephone.

di-acro®
PRECISION
METALWORKING
EQUIPMENT

DI-ACRO
A DIVISION OF HOUDAILLE INDUSTRIES, INC.
LAKE CITY, MINNESOTA 55041

LITHO IN U.S.A.

TIPS FOR BETTER SPRING WINDING WITH THE DI-ACRO SPRING WINDER

1. When inserting an arbor in the machine prior to winding, be sure that you do not turn the Clamp Screw so tightly against the arbor that the arbor will not slide in the V-groove without binding. Irregular shaped springs will be produced if you do. The arbor must be held snugly in the machine but must not be held so tightly that it will not retract properly when the wire is wound over it.

2. Turn the handle of the machine during the winding operation with an even, gentle motion. If you attempt to crank the machine with a jerky up and down motion you introduce a "wobble" which will also produce irregular shaped springs.

3. When turning the operating handle, make certain that you neither push in or pull out on the handle as you turn it. Keep a firm hold on the handle and let the wire (as it is being wound) retract the arbor for you. By pressing in or pulling out on the handle as you wind the wire, you produce distortion in the springs.

4. There are many types of wire which can be used in Spring Winding and there is also variance in the physical properties of wire which is supposed to be identical. Because of this, there are no tables available which will give you a sure fire method of selecting the proper size arbor required to wind a spring of a given inside or outside diameter.

   As a rough rule of thumb, the arbor diameter should usually be about 7/8 of the required inside spring diameter. You may find helpful tables on this subject in some of the engineering handbooks and encyclopedias which have been published. For instance, pages 500-502 in the MACHINERY HANDBOOK published by the Industrial Press gives some information on this.

di-acro®
PRECISION
METALWORKING
EQUIPMENT

DI-ACRO 300 EIGHTH AVENUE
LAKE CITY, MINNESOTA 55041
A DIVISION OF HOUDAILLE INDUSTRIES, INCORPORATED